

U.S. Serial No. 09/633,846
Art Unit 1772

Amendment D

Amendments to (None) and Listing of the Claims:

1. (Withdrawn) A method for making a coated strap comprising the steps of:
providing a metal strap having first and second sides and opposing edges;
conveying the strap along a conveyance path through a coating apparatus;
applying a powder on the first side of the strap, the powder being applied to the first side
and the opposing edges of the strap;
applying a powder on the second side of the strap, the powder being applied to the second
side and the opposing edges of the strap;
melting the powder to form a flowable material, the flowable material coating the strap;
curing the flowable material on the strap;
cooling the strap; and
winding the strap onto a storage member.
2. (Withdrawn) The method for making a coated strap in accordance with claim 1,
including the step of conveying the strap in a vertical orientation upwardly through the coating
apparatus.
3. (Withdrawn) The method for making a coated strap in accordance with claim 2
including the step of supporting the strap from only an uppermost point as it moves in the
vertically upward direction.
4. (Withdrawn) The method for making a coated strap in accordance with claim 1
wherein the powder is applied using an electrostatic application process.
5. (Withdrawn) The method for making a coated strap in accordance with claim 4
including first applying the powder to the first side of the strap and subsequently applying the

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powder to the second side of the strap.

6. (Withdrawn) The method for making a coated strap in accordance with claim 1 wherein the step of applying the powder on the first side of the strap includes applying the powder on the second side of the strap adjacent the opposing edges and wherein the step of applying the powder on the second side of the strap includes applying the powder on the first side of the strap adjacent the opposing edges.

7. (Withdrawn) The method for making a coated strap in accordance with claim 1 including the step of heating the strap with the powder thereon.

8. (Withdrawn) The method for making a coated strap in accordance with claim 7 including providing an oven for heating the strap.

9. (Withdrawn) The method for making a coated strap in accordance with claim 8 including heating the strap in the oven in a plurality of distinct heating zones.

10. (Withdrawn) The method for making a coated strap in accordance with claim 7 including the step of cooling the strap in a quench bath prior to applying the powder to the strap.

11. (Withdrawn) The method for making a coated strap in accordance with claim 10 wherein the cooling step reduces the temperature of the strap to less than about 130°F.

12. (Withdrawn) The method for making a coated strap in accordance with claim 1 including establishing a latent heat in the strap, and using the latent heat of the strap to melt the powder to form the flowable material.

13. (Withdrawn) The method for making a coated strap in accordance with claim 2

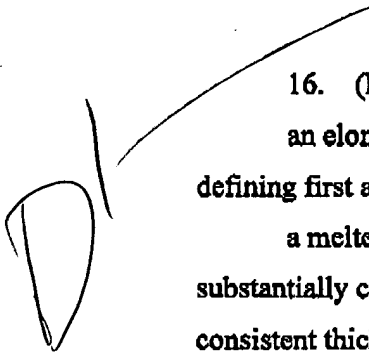
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including directing the strap in the vertically upward orientation a distance of about 30 feet for cooling.

14. (Withdrawn) The method for making a coated strap in accordance with claim 13 including redirecting the strap from the vertically upward orientation to a generally downward orientation prior to winding the strap onto the storage member.

15. (Withdrawn) The method for making a coated strap in accordance with claim 14 wherein the strap is redirected using at least one crowned pulley.

 16. (Previously Amended) A corrosion-resistant coated and cured strap comprising: an elongated metal strap base element, the metal strap base element having a width defining first and second sides and a thickness defining a pair of opposing edge regions; and a melted and cured powder coating on the base element, the coating having a first substantially consistent thickness at the first and second sides and a second substantially consistent thickness at the edge regions, the first and second thicknesses being different from one another, wherein the coating has a greater thickness at about the pair of opposing edge regions and about regions of the first and second sides adjacent the pair of opposing edge regions than on the first and second sides to define a dog-bone profile.

17-19. (Cancelled).

20. (Original) The corrosion-resistant strap in accordance with claim 16 wherein the first thickness of the coating is about 0.2 thousandths of an inch to about 5.0 thousandths of an inch.

21. (Original) The corrosion-resistant strap in accordance with claim 20 wherein the first thickness of the coating is about 0.6 thousandths of an inch to about 1.2 thousandths of

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an inch.

22. (Original) The corrosion-resistant strap in accordance with claim 21 wherein the first thickness of the coating is about 0.8 thousandths of an inch.

23-25. (Cancelled).

26. (Withdrawn) A strap base material coating apparatus for applying a powdered coating to the base material and curing the coating on the base material to form a cured strap, the base material having first and second opposing sides and defining edge regions, the coating apparatus disposed in-line in a strap making apparatus, the coating apparatus comprising:

a conveyance path;

a powdered coating spray region for applying a powdered coating to each of the first and second sides and the edge regions of the strap base material;

a heating region, disposed subsequent to the powdered coating spray region, the heating region having a sufficient length for melting of the powdered coating to cover the strapping base material;

a cure region having a predetermined length sufficient for curing of the melted powdered coating; and

a cooling region disposed subsequent to the cure region.

27. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the heating region includes an oven.

28. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the cure region includes an oven.

29. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the

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heating region and the cure region are integrated into an oven.

30. (Withdrawn) The coating apparatus in accordance with claim 29 wherein the oven has a plurality of discrete zones.

31. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the cooling region includes a liquid spray.

32. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the conveyance path is vertically oriented and wherein a crowned pulley is positioned at about an uppermost location for redirecting the cured strap.

33. (Withdrawn) The coating apparatus in accordance with claim 32 wherein the powdered coating spray region, the heating region, the curing regions and at least a part of the cooling region are disposed in an upward traverse of the apparatus.

34. (Withdrawn) The coating apparatus in accordance with claim 26 wherein the conveyance path has a vertical cooling length of at about 30 feet.

35. (Withdrawn) A method for continuous manufacture of strap comprising the steps of:

providing a source of strap material;

slitting the strap material to form bare strap;

heat treating the bare strap;

quenching the bare strap;

applying a powder on a first side of the bare strap, the powder being applied to the first side and on opposing edges of the bare strap and applying a powder on the second side of the bare strap, the powder being applied to the second side and the opposing edges of the bare strap

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to form a coated strap;

melting the powder on the coated strap to form a flowable material, the flowable material forming a film on and coating the coated strap;

curing the flowable material on the coated strap to form a cured strap;

cooling the cured strap; and

winding the cured strap onto a storage member.

36. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 35, including providing a coating apparatus, wherein the powder applying step, the powder melting step, the curing step and the cooling step are carried out in the coating apparatus.

37. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 36 including the step of conveying the strap in a vertical orientation upwardly through the coating apparatus.

38. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 37 including the step of supporting the strap from only an uppermost point as it moves in the vertically upward direction.

39. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 35 wherein the powder is applied using an electrostatic application process.

40. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 39 including first applying the powder to the first side of the strap and subsequently applying the powder to the second side of the strap.

41. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 35 wherein the step of applying the powder on the first side of the strap includes

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applying the powder on the second side of the strap adjacent the opposing edges and wherein the step of applying the powder on the second side of the strap includes applying the powder on the first side of the strap adjacent the opposing edges.

42. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 35 including the step of heating the strap with the powder thereon.

43. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 42 including providing an oven for heating the strap.

44. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 42 including the step of cooling the strap in a quench bath prior to applying the powder to the strap.

45. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 44 wherein the cooling step reduces the temperature of the strap to less than about 130°F.

46. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 35 including establishing a latent heat in the bare strap, and using the latent heat of the bare strap to melt the powder to form the flowable material.

47. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 37 including directing the strap in the vertically upward orientation a distance of about 30 feet through the coating apparatus for cooling.

48. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 47 including redirecting the strap from the vertically upward orientation to a generally

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downward orientation prior to winding the cured strap onto the storage member.

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49. (Withdrawn) The method for continuous manufacture of strap in accordance with claim 48 wherein the strap is redirected using at least one crowned pulley.
